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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/582,223

06/08/2006

Edith Trost Sorensen

P30040

3853

7055 7590 06/11/2009  
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EXAMINER

WEBB, WALTER E

ART UNIT

PAPER NUMBER

1612

NOTIFICATION DATE

DELIVERY MODE

06/11/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com  
pto@gbpatent.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/582,223	<b>Applicant(s)</b> SORENSEN, EDITH TROST	
	<b>Examiner</b> WALTER E. WEBB	<b>Art Unit</b> 1612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1, 3-16 and 20-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-16 and 20-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/17/2009 has been entered.

Applicants' arguments, filed 4/17/2009, have been fully considered. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

### ***Claim Rejections - 35 USC § 103--previous***

1) Claims 1, 3-11, 13-16 and 20-31 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Rajaiah et al.

Applicant argues that the rejections of record are improper because they rely upon five U.S. patents, which are not included in the statement of the rejections. However, as previously stated, the five patents discussed at page 3 of the Final

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Rejection dated 10/17/08 were cited ONLY to rebut applicant's arguments that calcium pyrophosphate is not known to be a whitening agent. As demonstrated by the cited patents, it is in fact a known whitening agent.

Applicant argues that the rejections are without sufficient basis, because the rejections do not indicate how Rajaiah is being modified, e.g. the rejections did not indicate why one having ordinary skill in the art would have picked and chosen components disclosed in Rajaiah to arrive at applicant's recited subject matter. However, it must be remembered that "[w]hen a patent simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious". KSR v. Teleflex, 127 S.Ct. 1727, 1740 (2007)(quoting Sakraida v. A.G. Pro, 425 U.S. 273, 282 (1976)). (See, for example, specification at pg. 4, last line to page 5, lines 1-4.) "[W]hen the question is whether a patent claiming the combination of elements of prior art is obvious", the relevant question is "whether the improvement is more than the predictable use of prior art elements according to their established functions." (Id.) Rajaiah et al. teaches a chewing gum and confection composition that inhibits buildup of plaque and other debris on teeth, thereby inhibiting gingivitis, caries and staining (see Abstract). The reference teaches the addition of other components as instantly claimed, including calcium pyrophosphate. The artisan would have chosen the components of Rajaiah to produce a chewing gum or confection that inhibits gingivitis as well as the buildup of plaque, staining, and other debris on teeth. Rajaiah provides a parameter for the components to assist the artisan in making the chewing gum or confection. For

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example, the composition may comprise calcium pyrophosphate in an amount generally from 1% to about 70% by weight of the chewing gum or confection component. (See paragraph [0059].) What is not clear is whether the instant invention is more than the predictable use of prior art elements according to their established function.

Applicant argues that polybutene is not a "solid component" and that this component would be essentially destroyed to arrive at the claimed subject matter. However, the composition of Rajaiah comprises more than 75% of by weight of solid material insofar as it is a chewing gum. Furthermore, applicant has not defined what it means by "solid materials" or drafted claims in such a way to exclude polybutene. Rajaiah teaches that the "polybutene component may be dispersed throughout the gum or confection or, alternatively, may be used as a fill composition encapsulated within a gum or confection outer shell (see paragraph [0029]). The amount of polybutane is **not** limited to only an amount of about 50% to about 90% as indicated by applicant. The amount of polybutene included is from 0.01% to 99% (see paragraph [0024]). Thus, it is unclear how the composition of Rajaiah would be essentially destroyed to arrive at the claimed subject matter.

In regard calcium pyrophosphate, applicant is reminded that the reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant. See MPEP 2144. Thus, the reference need not teach adding calcium pyrophosphate for the reasons given by applicant to arrive at the instant invention.

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Furthermore, the Supreme Court noted that the analysis under 35 USC 103 “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” KSR v. Teleflex, 127 S.Ct. 1727, 1741 (2007).

The Court emphasized that “[a] person of ordinary skill is... a person of ordinary creativity, not an automaton.” Id. at 1742. As established above, calcium pyrophosphate was known in the art as a whitening agent. The artisan, being a person of creativity, would reasonably adjust the amount of calcium pyrophosphate in the composition of Rajaiah consistent with the typical requirements for whitening agents.

2) Claim 12 remains rejected under 35 U.S.C. 103(a) as being unpatentable over Rajaiah et al. in view of Gibbs et al.

Applicant argues that this rejection should be withdrawn for the reasons above. However, this rejection is maintained for the Examiner’s reasons given above.

## **New**

3) Claims 1, 3-11, 13-16 and 20-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rajaiah et al. in view of Thomas et al., (US 6,294,155).

The Examiner believes that Thomas et al. had been cited only for rebuttal purposes. However, it will be presumed, purely *arguendo*, that the reference was used substantively. This presumption is being made in the interest of completeness and fairness of prosecution and applies ONLY to the particular 103 rejection involved.

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Rajaiah et al. differs from the instant claims insofar as it does not provide the motivation to select calcium pyrophosphate from the list of agents given.

Thomas et al. teaches that calcium pyrophosphate is a reference material of the American Dental Association and that the stain reduction resulting from calcium pyrophosphate use is taken to be by definition 100 (see col. 6, lines 32-51). Thomas et al. does not teach the composition of claim 1.

Since calcium pyrophosphate is a standard stain reducing agent and unambiguously disclosed in Rajaiah et al., it would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to use it in the composition of Rajaiah. The artisan would have been motivated to obtain the cleaning performance associated with using calcium pyrophosphate, as evidenced by Thomas et al.

4) Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rajaiah et al., (*supra*) and Thomas et al. (*supra*) as applied to claims 1, 3-11, 13-16 and 20-31 above, and further in view of Gibbs et al. (International Journal of Food Sciences and Nutrition 1999).

The combination of Rajaiah and, taught above, differs from the instant claim 12 insofar as it does not teach encapsulation of at least one additive and a tooth whitening agent comprising calcium pyrophosphate.

Gibbs et al. teach encapsulation of food ingredients such as flavoring agents, acids, bases, antioxidants, sweeteners. (See abstract.) Encapsulation is useful to

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enhance the stability and maintain viability of foods and also to allow for site-specific and or stage specific release of ingredients. (See *ibid.*) Gibbs does not teach the composition of claim 1.

It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to encapsulate at least one additive and the calcium pyrophosphate of Rajaiah since doing so would, for example, prevent loss of flavor, and allow for a controlled release of the calcium pyrophosphate.

### ***Conclusion***

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter E. Webb whose telephone number is (571) 270-3287. The examiner can normally be reached on 8:00am-4:00pm Mon-Fri EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frederick F. Krass can be reached (571) 272-0580. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Walter E. Webb  
/Walter E Webb/  
Examiner, Art Unit 1612

/Frederick Krass/

Supervisory Patent Examiner, Art Unit 1612